

## AMENDMENTS TO THE SPECIFICATION

### In the Specification

Please replace paragraph [0015] beginning on page 7 with the following amended paragraph:

[0015] An object of the present invention is to provide a hydrogen core-state compression/decompression array and a system for compacting a large tank of hydrogen into a small unpressurized readily portable cassette and an automation unit for converting this hydrogen into usable hydrogen fuel and managing, transporting, distributing and processing these materials. Another object is to provide a hydrogen core-state compression/decompression array that provides a unique cost-effective, safe, reliable and feasible alternative fuel production, transport & distribution technology for the world's energy needs. Another object is to provide a hydrogen core-state compression/decompression array that holds large amounts of hydrogen in a relatively small cassette. Another object is to provide a hydrogen core-state compression/decompression array that after transport, at the site that the fuel is required, turns the contents of the relatively small cassette back into usable alternative fuel. Another object is to provide a hydrogen core-state compression/decompression array that includes a software application to allow the distributors and the end-users to track, manage, order, pre-order, bill, allocate and provide other operation functions, in real-time, for the transport, distribution, supply, delivery and use of the alternative fuel in an integrated manner. Another object is to provide a hydrogen core-state compression/decompression array that uses hydride metals to densely pack hydrogen into a very small cassette as one of many possible cassette core materials via a process of enhanced catalyzation and layering of metallic hydride compounds at an atomic level. Another object is to provide a hydrogen core-state compression/decompression array that

massively catalyzes water to make it function as a feasible medium for hydrogen fuel transport as one of the many possible cassette core materials via a process of Massively Catalyzed Water. Another object is to provide a hydrogen core-state compression/decompression array that can be affixed to a vehicle to turn the cassettes into usable hydrogen fuel on-board the vehicle. Another object is to provide a hydrogen core-state distribution system which is a load-responsive, hydrogen-on-demand solution. Another object is to provide a hydrogen core-state distribution system which uses no high heat, no liquid hydrogen and no high-pressure transport units. Another object is to provide a hydrogen core-state distribution system which may include fuel cells and self-contained full-circle energy production and reproduction. Another object is to provide a hydrogen core-state distribution system which can be small enough to be worn on a belt or large enough to power a vehicle or something larger [[a large city like New York City]]. Another object is to provide a hydrogen core-state distribution system which eliminates the possibility of explosion from reactive or pressure causes. Another object is to provide a hydrogen core-state distribution system which can be adapted easily to interface to all known fuel cell and hydrogen input needs. Another object is to provide a hydrogen core-state distribution system which may not require external power. Another object is to provide a hydrogen core-state distribution system which may provide reversible storage of hydrogen. Another object is to provide a hydrogen core-state distribution system which allows any consumer or business end-user to order fuel for direct delivery via a web-page or an 800 number. Another object is to provide a hydrogen core-state distribution system which will automatically re-supply all end users when they need more fuel. Another object is to provide a hydrogen core-state distribution system which Federal Aviation Administration (FAA) and National Transportation Safety Board (NTSB) certifiable and can be delivered by US Mail or purchased at your local Supermarket.

Please replace paragraph [0047] beginning on page 17 with the following amended paragraph:

[0047] Cassette types:

1. MCW (Massively Catalyzed Water) and Sodium Hydride or other water reactant. The MCW Liquid is specially compounded water for the core material of an Hfuel Cassette.
2. A mud-like slurry, which can flow through tubing inside the decom and contains water reactant.
3. Solid alloy. The Alloy material is specially compounded Metal Hydride alloy for the core material of an Hfuel Cassette. As used herein, a metal hydride or other art recognized hydrogen storing alloy may sometimes be referred to herein as simply an "alloy".
4. Pre-sliced alloy
5. Powdered, charged, hydride

Please replace paragraph [0053] beginning on page 19 with the following amended paragraph:

[0053] In several embodiments of the Decom unit of the present invention, the Decom supplies High purity (99.999+ %) dry gaseous hydrogen output at production rates: .5 - 1 normal cubic meters per hour (Nm3/h) [[Nm3/h]] (19 to 38 scf/h) process pressure 10-250 PSIG for consumption at 15 to 20 SLPM at rated net output. The Decom in one embodiment is characterized as follows:

**Features:** No liquid hydrogen required, no pressurized hydrogen required, minimizes hydrogen inventory, no caustic electrolytes, no environmental impact, lower cost than competing solutions, asbestos free, reliable, compact, automatic control, no EMF, no external power required, easy to use, portable, weatherized casing option, vehicle-mountable.

**Waste Emissions:**

Liquid water: Maximum 0.87 liters (30 fluid oz.) per hour

Noise: 20 dBA @ 1 meter

**Integration/connection:** Fuel interface 45° flared tube fitting for ¼" OD tubing-metallic

**Electrical interface:** #8 AWG electrical wire

**Control interface:** Full duplex RS 485

**Input:** Water, as option

**Output:**

port1: Hydrogen

port2: Venting for overpressure:

port3: Modem

**Communications:** Memtel(TM) via CDPD wireless and/or modem

**Communications connection:**

One PCMCIA slot for Memtel wireless

One RJ-11 phone jack and modem

**Input power:** None

**Functional Switches:**

on/off, Eject, Test Cycle, Menu, >, <, Sleep

**Indicator:** Monochromatic LCD readout